

D & D SUBGROUP HIGHLIGHTS

APRIL 20, 1999

This meeting was held in the ETB Wenatchee River Room. The meeting began at 9:00 a.m.

NUCLEAR MATERIALS FOCUS AREA (NMFA)

This newly formed focus area, formerly called The Plutonium Focus Area, has broadened its scope to include all nuclear materials. The D & D Subgroup is reviewing some S & T Needs that will be sent to this new focus area for funding. Greg Berlin handed out information on the Pu Focus Area from their internet home page. The home page address is: infoshare.inel.gov/pfa. Some of the needs that used to be sent to the MW and D & D Focus Areas will be sent to the NMFA. Dave Langstaff proposed changing the name of our subgroup to the Deactivation & Decommissioning Subgroup. The subgroup agreed with this name change. This will be brought up at the next Management Council (MC) meeting.

S&T NEEDS PROCESS

Greg Berlin stated that the entire package of S&T needs for all of Hanford should be finished by the end of May. The STCG Subgroups may be endorsing the needs without the need to get approval from the MC. This will be discussed at the next MC meeting. We need to look at what the subgroup's role would be if we have sole authority over the needs submitted to the focus areas and published. We may want to examine whether criteria for ranking or prioritizing the needs, as were used in the past, would be useful. The needs should also be statused throughout the year. The PHMC is currently working on the format for statusing the needs. In addition, new needs could also be added at any time of the year.

BHI TECHNOLOGY NEEDS

Kim Koegler reviewed the needs from BHI. Last year the CDI needs had an additional information section attached to them. This year the Internet address with more information will be included in the needs statements and linked to the needs from the STCG home page. Kim distributed a page containing a listing of these reports that are now available on the BHI home page. BHI is submitting 32 technology needs this year. Eleven have been reformatted from last year, two were revised significantly and there are 19 new needs. The Surveillance/Maintenance and Transition Project needs were divided into two sections: CDI needs and other S & M needs. The Decommissioning Projects had three sections: 233-S Decommissioning, Reactors Interim Safe Storage, and Other Decommissioning. Each of the new needs was then reviewed by Kim.

The CDI needs #35 to #40 were reformatted from last year. The Remote/Robotic Technologies for CDI need, RL-DD034, was revised significantly to go past the

characterization needs in last years submittal. There are six new CDI needs this year (#48 to #53) including needs for volume reduction of equipment, waste encapsulation and stabilization, sealant technologies, high profile surface barriers, long-term monitoring and operational modeling for CDI. There are also six new needs in the Other S & M category including an electronic job control system (#54), remote monitoring system upgrades (#55), a facility life model (#56), long-lived roof replacement for Purex (#57), a method to control deep rooted plants (#58) and lead decontamination (#59). The facility life model would be used to determine when to do maintenance vs. letting the facility go into disrepair.

The 223-S Decommissioning needs included four that were reformatted from last year (#29-32) and four new ones (#60-63). The new ones included one (#60) dealing with the characterization of 233-S waste in the field rather than at the WRAP facility. The need is for equipment to package the waste in the field. WRAP personnel should be informed of this effort.

The technology needs for the Reactors Interim Safe Storage included a revision of one need (#33) and three new needs (#64-66). The three new needs deal with characterization and removal and segregation of material at the 105-F Spent Fuel Basin. The final need discussed was RL-DD021 entitled "Metal Decontamination and Recycling for the D & D Program". The need was reformatted from last year. The baseline technology is to use ERDF at \$ 78/m³ which includes the cost of capping and long term monitoring of ERDF but not expanding it.

PHMC TECHNOLOGY NEEDS

Greg Berlin reviewed the changes to the needs statements for the BWHC needs. There are 18 D & D Technology needs that were updated from last year. In addition there are four new Nuclear Material technology needs from BWHC included this year. The need, RL-DD01, "Cesium Capsule Leak Detection System for WESF" has been updated from last year. Solutions to this need are being pursued and include examining an INEEL developed robotic sub system. PNNL also put in a proposal that was not funded. Private companies are also working on a solution that may include an ultrasound technology and an X-ray fluorescence technology. The need, RL-DD02, entitled "Glove Box Size Reduction System at PFP" is in part being addressed by a joint ASTD project we are working on with NTS and others. In addition, a large scale demonstration project that the DDFA is funding of the DVRS may apply here also. Work on the needs, RL-DD03 and 04, dealing with decontamination and the use of fixatives at PFP may make use of the C-Reactor demo results. Six fixatives were examined and tested at C-Reactor but not deployed. Two of these fixatives may be useful at PFP. Nine of the remaining technology needs are for the 324 and/or 327 Building work. One of the needs, RL-DD010, entitled "Radiation Hardened Robotics for Building 324" may be solved as part of the new ASTD Project. There are five WESF technology needs listed, RL-DD041 – 045, that were reviewed. RL-DD041, "Capsule Integrity Assessment Method for WESF", is a replacement to the current clunk test. RL-DD042, "Hot Cell Window Life Extension for WESF" may not be a need any longer as the cloudy windows

may be deactivated and the others are OK. Greg will check on this. The need for RL-DD043, "Crane System Upgrades for Hot Cell Canyon and Cesium Capsule Pool in WESF" was also questioned as the hot cells may be deactivated and the crane may not be allowed to be used in the pool area due to safety concerns. Greg will check into this also.

There were four new Nuclear Materials needs reviewed by Greg all of which deal with PFP materials. The first need, RL-99-001-NM, entitled "Supplemental Equipment for Pyrolysis Technology Deployment at Hanford's PFP", was done in part to receive funding from the NMFA this FY. The NMFA has funding and is looking at needs and proposals now. The second Nuclear Materials need, RL-99-002-NM, entitled "PFP Polycube Analysis" also shows up as a D & D Science need.

D & D SCIENCE NEEDS

Sue Garrett reviewed the 12 science needs for the D & D area of which six are new needs this year. Of the six old science needs only one raised any concerns and that was RL-DD028-S, entitled "Hot Cell Window Gasket and Seal Degradation". This need applied to WESF and as discussed earlier, if the technology need drops off the list then so will this science need. A question was raised as to how the science needs are used. The needs are submitted to the EMSP process for review by PNNL scientists to see if there are any for which PNNL has potential solutions. PNNL does the pre-proposal work to determine the state-of-the-art in an area before submitting an EMSP proposal to meet a need on the list. Proposals that meet an STCG endorsed science need are more likely to be funded by EMSP. The new need, RL-DD029-S entitled "Algae Corrosion and Growth Inhibition" is for the WESF pool algae problem and deals with how to control the algae without harming the stainless steel capsules. Two of the new science needs, RL-DD030-S and RL-DD031-S, deal with analysis needs of the PFP polycubes. The next need, RL-DD032-S, deals with how to measure the moisture content in PU oxides and other materials at the PFP. The final two science needs, RL-DD033-S and RL-DD034-S, deal with waste in the 324 Building and how to measure the TRU content of the waste. The need, RL-DD034-S, entitled "TRU Model for 324 Building Waste" was discussed. The question was raised as to whether there really is a correlation between Cs137 and TRU waste amounts. A technical basis and references to support this correlation should be included as part of the needs statement. Sue will look into this issue.

OTHER UPDATES

Shannon Saget displayed copies of EM-50 publications highlighting technologies that have been demonstrated. These are known as the Green Books and Shannon is willing to loan her copies to anyone who would like to read them.

Kim Koegler gave an update on CDI. The crane is now working and the lights are on. Characterization work is to start up again. The ANDROS robot is to go into the ductwork soon. FETC PONs are to be awarded to vendors for an upgraded gamma camera to be

3D and for thermal imaging of standing liquids in pipes and other equipment. The thermal imaging may be infrared technology. Kim is monitoring an ASTD project taking place at the Brookhaven graphite research reactor. This project is to characterize the reactor and Kim will follow the system results especially the demonstration of the multi-channel spectroscopic device.

There is a DDFA mid-year program review scheduled for the end of May.

Dave Langstaff gave an update on the ASTD project. The development of the robotics requirements is now being done. The procurement will then be put together. BWHC personnel went to NTS last week to work on the laser cutting ASTD project. We are working with them to get the system operational and it is scheduled to be demonstrated at Hanford.

Dave also introduced the Integrated Safety Management System (ISMS) and gave a quick overview of it. Next month a presentation on the principles of ISMS may be given at the subgroup meeting.

The next subgroup meeting is schedule for May 11 at 9 a.m. in the EESB Cayuse Room.

D&D Subgroup Meeting Attendees
04/20/99

<u>Name</u>	<u>Company</u>	<u>Phone #</u>
Gary Ballew	PREC	946-0611
Singh Bath	LMHC	376-1840
Harry Bell	DOE/TPD	376-2347
Greg Berlin	FDH-TM	372-4352
Ron Borisch	BWHC	372-3382
Dennis A. Brown	DOE/STP	372-4030
Pam Brown	HAB	943-7348
Sue Garrett	PNNL	372-4266
Bob Julian	Ecology	736-5702
Kim Koegler	BHI	372-9294
David Langstaff	DOE-RL/AMF	376-5580
Shannon Saget	DOE-RL/AMT	372-4029
Fred Serier	DOE/RPS	376-8517
Dave Templeton	DOE/TPD	373-2966
Steve Weakley	PNNL	372-4275
Kim Williams	DOE/TPD	373-1646
Chris Wollam	BMHC	373-1587

